



PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application of

Docket No: Q62804

Hiroshi KODAMA, et al.

Appln. No.: 09/768,512

Group Art Unit: 1764

Confirmation No.: 5316

Examiner: Hien Thi TRAN

Filed: January 25, 2001

For: METALLIC CARRIER FOR CATALYTIC CONVERTER

**SUBMISSION OF APPEAL BRIEF**

**MAIL STOP APPEAL BRIEF - PATENTS**


Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Submitted herewith please find an Appeal Brief. A check for the statutory fee of \$500.00 is attached. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,

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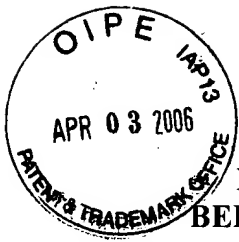
  
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WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

Date: April 3, 2006



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#### APPEAL BRIEF UNDER 37 C.F.R. § 41.37

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Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellant submits the following:

#### Table of Contents

I.	REAL PARTY IN INTEREST.....	2
II.	RELATED APPEALS AND INTERFERENCES .....	3
III.	STATUS OF CLAIMS .....	4
IV.	STATUS OF AMENDMENTS.....	5
V.	SUMMARY OF THE CLAIMED SUBJECT MATTER .....	6
VI.	GROUND OF REJECTION TO BE REVIEWED ON APPEAL .....	8
VII.	ARGUMENT.....	9
CLAIMS APPENDIX .....	04/04/2006 JAD001 00000022 09760512	16
EVIDENCE APPENDIX: .....	01 FC:1402	500.00 OP 18
RELATED PROCEEDINGS APPENDIX.....		19

Appeal Brief  
U.S. Application No. 09/768,512

**I. REAL PARTY IN INTEREST**

The real party in interest is CALSONIC KANSEI CORPORATION by virtue of an assignment executed by Hiroshi KODAMA and Tatsuo SATO (hereinafter “Appellants”) on January 15, 2001 and recorded in the U.S. Patent and Trademark Office on January 25, 2001 at reel 011487 and frame 0405.

## **II. RELATED APPEALS AND INTERFERENCES**

Upon information and belief, there are no other prior or pending appeals, interferences or judicial proceedings known to Appellants' Representative or the Assignee that may be related to, be directly affected by, or have a bearing on the Board's decision in the Appeal.

### **III. STATUS OF CLAIMS**

Claims 1, 2, 6-8 and 10-14 are pending, of which claims 11-14 are withdrawn from consideration as being directed to a non-elected invention.

Claims 1, 2, 6-8 and 10 stand rejected and are the basis of this Appeal.

Only rejected claims 1, 2, 6-8 and 10 are shown in the Claims Appendix.

**IV. STATUS OF AMENDMENTS**

Appellants did not amend the claims subsequent to the October 19, 2005 Final Office Action. Accordingly, all amendments, which have been made during prosecution of the present application, have been entered, and are reflected in the attached Claims Appendix.

**V. SUMMARY OF THE CLAIMED SUBJECT MATTER**

The present invention is directed to a metallic carrier for a catalytic converter. The features of independent claim 1 are described herein in reference to non-limiting embodiments of Appellants' specification.

**Claim 1** - Claim 1 recites a metallic carrier 17 for a catalytic converter having a corrugated sheet 1 made of metal, a flat sheet 3 made of metal, and a core 5 formed by superposing the corrugated sheet 1 and flat sheet 3 one on another and by rolling the corrugated sheet and the flat sheet in multiple times (Figure 2, non-limiting embodiment pg. 7). An unmelted brazing foil material 7 is disposed around an outer periphery of an exhaust gas outlet side of the core 5 (non-limiting embodiment, bottom pg. 6 to top pg. 7; also see pg. 1 of application which defines "rear" side as the exhaust gas outlet side).

An assembly including the core 5 and the unmelted brazing foil material 17 is press-fitted into a metallic outer cylinder 15 (Figure 2, non-limiting embodiments pgs. 6 and 7). The metallic outer cylinder 15 is subjected to a heat treatment to diffusionally join the corrugated sheet 1 and flat sheet 3, and to join an inner periphery of the metallic outer cylinder 15 and an outer periphery of the core 5 by the unmelted brazing foil material 17 (non-limiting embodiment, pg. 7). A solder-rising preventing groove 19 is defined over an entire circumference of the inner periphery of the outer cylinder 15 at a position located on an exhaust gas inlet side of an area for joining the core 5 (non-limiting embodiment pg. 7; also see pg. 2 of application which defines the "front" side as the exhaust gas inlet side). Further, the unmelted brazing foil material 17 is

not disposed in the solder-rising preventing groove 19, and the solder-rising preventing groove 19 prevents melted brazing foil material, melted by the heat treatment, from flowing toward the exhaust gas inlet side of the core (Fig. 2; non-limiting embodiment pg. 7).



**VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

A. Claims 1, 2, 6, 7, 8 and 10 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement.

B. Claims 1, 2, 6, 7, 8 and 10 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite.

C. Claims 1, 2, 6, 7, 8 and 10 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 4,948,774 or U.S. Patent No. 5,026,611 to Usui (i.e., Usui '774 or Usui '611) in view of JP 08-141413 to Shimada ("Shimada") and U.S. Patent No. 4,248,186 to Nonnenmann et al. ("Nonnenmann").

## **VII. ARGUMENT**

### **A. Rejections under 35 U.S.C. § 112, first paragraph**

The Examiner maintains that the claims contain subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time of filing the Application, had possession of the claimed invention. In particular, the Examiner maintains that the claimed “melted” and “unmelted” brazing foil material is not disclosed in the specification. Appellants respectfully traverse this assertion.

At least based on a reasonable reading of the specification and in view of the non-limiting embodiments shown in Figures 1a, 2, and the non-limiting embodiments on pages 3, 6 and 7 of the present Application, Appellants submit that the terms “melted” and “unmelted,” are clearly supported by the specification, and one skilled in the art would clearly understand that the inventors were in possession of the claimed invention at the time the present application was filed.

For example, on pages 3, 6 and 7 of the specification, a non-limiting embodiment is disclosed where the brazing foil material is wound around an outer periphery of an exhaust gas outlet side or rear side of a core, while the solder-rising preventing groove is positioned on an exhaust gas inlet side or front side of an area for joining the core (last paragraph beginning on pg. 3 and ending on pg. 4, where pages 1 and 2 of the specification define “rear side” and “front side”). Based on such disclosure, one skilled in the art would recognize that the material and

groove are provided on opposite sides, i.e., outlet and inlet, as recited in claim 1. Further on page 7 of the May 4, 2005 Office Action, the Examiner appears to acknowledge that the brazing material and grooves are provided on opposites sides (“...although the brazing material and the grooves are provided on opposite sides...”).

As further disclosed in the non-limiting embodiments, the brazing material does not rise towards the solder rising preventing groove at the inlet side of the core until “melted” by *heat treatment* (non-limiting embodiment of pgs. 4 and 7). Since the brazing material is “melted” by the heat treatment, then one skilled in the art would understand that it would have to be “unmelted” before the heat treatment. Thus, the brazing foil material disposed around the outer periphery, before heat treatment, is “unmelted” material. Further, since the brazing material does not rise toward the grooves until melted, one skilled in the art would clearly understand that the unmelted material is not disposed in the groove, as recited in the claims.

Further to the above, and in view of the Examiner’s comments in the May 4, 2005 and October 19, 2005 Office Actions, it appears that the Examiner believes that a term will only have support in the specification if the term is recited *verbatim* in the specification. Such contention is in error. As disclosed in MPEP §2163.05, a claim limitation will comply with the written description requirement of 35 U.S.C. § 112, first paragraph, if the limitation is either expressly, *implicitly* or *inherently* supported in the originally filed disclosure (i.e., such that if the recitations are implied or inherent in the specification, the written description requirement is satisfied). Based on the non-limiting disclosure of pages 3, 6 and 7, Appellants submit that one skilled in the art would clearly understand that the claims are well supported by the specification

to allow one skilled in the art to understand that the Appellants had possession of the invention at filing.

**B. Rejections under 35 U.S.C. § 112, second paragraph**

For similar reasons as set forth above in the rejection under 35 U.S.C. § 112, first paragraph, the Examiner maintains that the claims are indefinite under 35 U.S.C. § 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which the Appellants regard as their invention. However, Appellants submit that the melted and unmelted brazing foil material are properly and distinctly recited in the claims and that such features have adequate support in the specification for the reasons already presented above.

**C. Rejections under 35 U.S.C. § 103(a) in view of Usui '774 or Usui '611 in view of Shimada and Nonnenmann**

**1. Claim 1**

As set forth in the January 18, 2005 Amendment and the August 4, 2005 Amendment, nowhere do the applied references, either alone or in combination, teach or suggest at least, “wherein the unmelted brazing foil material is not disposed in the solder-rising preventing groove,” (emphasis added) as recited in amended claim 1. Usui '774, which the Examiner relies on to support the argument that the above-quoted feature is satisfied, clearly does not disclose an unmelted brazing foil material that is not disposed in the solder rising preventing groove. As previously argued, Usui '774 discloses that the grooves 7 thereof serve to retain the brazing material 8 (column 4, lines 24-25). In particular, the rods of brazing material 8 (i.e., unmelted

material) are placed and held in each of the grooves 7 to provide an adequate degree of joining strength (col. 4, lines 18-20 and 43-45). By being held in the grooves 7, the brazing material, once melted, will not be prevented from flowing toward the exhaust gas inlet side of the cores.

Also, since Usui '661 discloses similar features as Usui '774, Appellants submit that claim 1 is patentable over Usui '661 for at least analogous reasons as presented above.

On pages 7 and 8 of the October 19, 2005 Office Action, in the "Response to Arguments" Section, the Examiner appears to maintain that the claimed location of the unmelted brazing foil material is a method of making the carrier or directed to a process, while the claims are directed to an apparatus. However, the position of the unmelted brazing foil material is just as much a part of the structure of the carrier as is the outer cylinder, the groove, etc. The claim is not claiming a process of *how* the unmelted brazing foil material is placed on the carrier. Rather, the recitation is directed to the simple structure of what the carrier comprises, i.e., the carrier comprises unmelted brazing foil material at a specific position. Accordingly, such feature should be giving patentable weight.

In addition, claim 1 recites that the solder-rising preventing groove prevents the melted brazing foil material from flowing toward the exhaust gas inlet side of the core. As disclosed in one embodiment of Usui '611, the molten brazing material is made to penetrate the entire area of contact between the metal casing 6 and the honeycomb core structure 2 to join the members. As such, the fine recesses 7 do not prevent the molten brazing material from flowing toward an exhaust gas inlet side of the honeycomb structure 2.

On page 8 of the October 19, 2005 Office Action, in the “Response to Arguments” Section, the Examiner maintains that Usui ‘611 discloses that the fine recesses 7 are not provided at marginal portions of the opposite ends of the honeycomb structure 2, and serve to promote the penetration of the molten brazing material (see Figs. 11-16 of Usui ‘611). The Examiner assumes that by not providing the fine recesses 7 at the marginal portions, the material will be prevented from flowing towards the ends of the honeycomb structure. However, Usui ‘611 specifically recites that the molten brazing material is to penetrate, “uniformly over the entire areas of contact between the metal casing 6 and the honeycomb core structure 2 by capillary of the fine recesses 7, thereby joining these two members reliably” (col. 6, lines 36-41 of Usui ‘611) (emphasis added). Accordingly, since the reference specifically teaches that the material penetrates the “entire” area of contact between the metal casing 6 and the honeycomb core structure 2, which would include the end portions, the fine recesses 7 do not prevent molten brazing material from flowing towards the ends of the honeycomb structure.

Further, during the July 21, 2005 Examiner Interview, the Examiner pointed to Figure 15 of Usui ‘611 and maintained that grooves are provided on both ends of the casing, such that if rods of material were placed on only grooves of *one* side, then the reference would still disclose the claimed features since the grooves on the opposite side of the casing would remain empty. However, as set forth by Appellants in the August 4, 2005 Amendment, Usui ‘611 fails to disclose that “unmelted” brazing material is disposed on one end, but not on the other end. Rather, based on the disclosure, the brazing material will be placed over all grooves, and thus, does not disclose the claimed invention.

In response to the above argument, the Examiner maintained that the language of the claim is not commensurate in scope with the argument presented (i.e., that brazing material will be disposed on one end of the structure, but not on the other end) (see pg. 9 of October 19, 2005 Office Action). However, claim 1 recites a gas outlet side and a gas inlet side, which are two different ends. The unmelted brazing foil material is recited as disposed around an outer periphery of the outlet side, while the solder-rising preventing groove is recited as being defined over the inlet side. As further recited, the unmelted brazing foil material is not disposed in the solder-rising preventing groove.

Based on such recitations, one skilled in the art would clearly understand that since the brazing foil material is not disposed in the solder-rising preventing groove, and since the brazing foil material is disposed at an end (i.e., outlet side) which is opposite to the solder-rising preventing groove (i.e., inlet side), then the brazing foil material is in fact disposed on one end, but not on the other end. Accordingly, contrary to the Examiner's assertion, the recitations of claim 1 are clearly commensurate in scope with the arguments presented in the August 4, 2005 Amendment. Further, the positioning of the unmelted brazing foil material and the solder-rising preventing groove are related to structure, not a process.

At least based on the foregoing, Appellants submit that independent claim 1 is patentably distinguishable over the Usui '774 and Usui '611 references, either alone or in combination.

In addition, since the other applied references, i.e., Shimada and Nonnenmann, fail to cure the deficient teachings of Usui '774 or Usui '611, as set forth above, Appellants submit that claim 1 is patentable.

Appeal Brief  
U.S. Application No. 09/768,512

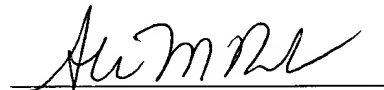
**2. Claims 2, 6, 7, 8 and 10**

Appellants submit that dependent claims 2, 6-8, and 10 are patentable at least by virtue of their respective dependencies from independent claim 1.

Unless a check is submitted herewith for the fee required under 37 C.F.R. §41.37(a) and 1.17(c), please charge said fee to Deposit Account No. 19-4880.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

Date: April 3, 2006 (since April 1, 2006 fell on a Saturday)



**CLAIMS APPENDIX**

CLAIMS 1, 2, 6, 7, 8 and 10 ON APPEAL:

1. (rejected) A metallic carrier for a catalytic converter comprising:
  - a corrugated sheet made of metal;
  - a flat sheet made of metal;
  - a core formed by superposing the corrugated sheet and flat sheet one on another and by rolling the corrugated sheet and the flat sheet in multiple times;
  - an unmelted brazing foil material disposed around an outer periphery of an exhaust gas outlet side of the core; and
  - a metallic outer cylinder into which an assembly including the core and the unmelted brazing foil material is press-fitted, the metallic outer cylinder subjected to heat treatment to diffusionally join the corrugated sheet and flat sheet, and join an inner periphery of the metallic outer cylinder and an outer periphery of the core by the unmelted brazing foil material,
  - wherein a solder-rising preventing groove is defined over an entire circumference of the inner periphery of the outer cylinder at a position located on an exhaust gas inlet side of an area for joining the core,
  - wherein the unmelted brazing foil material is not disposed in the solder-rising preventing groove, and
  - wherein the solder-rising preventing groove prevents melted brazing foil material, melted by the heat treatment, from flowing toward the exhaust gas inlet side of the core.

2. (rejected): The metallic carrier as claimed in claim 1, wherein another solder-rising preventing groove is defined over an entire circumference of the inner periphery of the outer cylinder at a position located on the exhaust gas outlet side of the area for joining the core, and the another solder-rising preventing groove prevents the melted brazing foil material, melted by the heat treatment, from flowing toward the exhaust gas outlet side of the core.

6. (rejected) The metallic carrier as claimed in claim 1, wherein the metallic outer cylinder defines a plurality of solder-rising preventing grooves on the inner surface thereof.

7. (rejected) The metallic carrier as claimed in claim 1, wherein an edge of the core is above the solder-rising preventing groove.

8. (rejected) The metallic carrier as claimed in claim 1, wherein the solder-rising preventing groove protrudes inwardly over the entire circumference of the inner periphery of the outer cylinder, such that a portion of the core, which corresponds to the positioning of the solder-rising groove, is crushed.

10. (rejected): The metallic carrier as claimed in claim 1, wherein the solder-rising preventing groove is provided on only one end of the outer cylinder.

Appeal Brief  
U.S. Application No. 09/768,512

**EVIDENCE APPENDIX:**

NONE

Appeal Brief  
U.S. Application No. 09/768,512

**RELATED PROCEEDINGS APPENDIX**

NONE